

ABSTRACT OF THE DISCLOSURE

The invention provides isolated nucleic acids molecules, designated 47169 and 33935 nucleic acid molecules, which encode novel glycosyl transferases. The invention also provides antisense nucleic acid molecules, recombinant expression vectors containing 47169 and 33935 nucleic acid molecules, host cells into which the expression vectors have been introduced, and non-human transgenic animals in which a 47169 or 33935 gene has been introduced or disrupted. The invention still further provides isolated 47169 and 33935 proteins, fusion proteins, antigenic peptides and anti-47169 and anti-33935 antibodies. Diagnostic methods utilizing compositions of the invention are also provided.